Ground-level Ozone and Smog Name here:\_\_

1. **Read** what smog is.
2. Click on the link Ozone: Good up High, Bad Nearby
   1. **How** is ozone both good and bad?

**Ozone is bad at the ground level, where it is pollutant for vegetation and breathing in, and ozone is good above six miles high where it blocks ultra violent rays.**

* 1. Scroll down to Bad Ozone. **What** causes bad ozone?

Industrial facilities, vehicles, gas vapors, and chemical solvents.

* 1. **What** time of year is worst for ground-level ozone?

**summer**

* 1. **How** can we reduce ground-level ozone?

**Conserve energy at home, reduce air pollution from motor equipment**

1. Use the Back Arrow on your tool bar to go back to the main page.
2. Scroll down and click on the link: How Ozone is Formed. Click on Make Ozone. **Summarize** the process of smog formation.

VOCs and NO2 react to make ozone.

1. Use the Back Arrow on Tool bar to go back to the main page. (It may have opened in a new tab)
2. Go into the link: Thermal Inversion and Smog. **Explain** Thermal Inversions.
3. **Summarize** photochemical smog information here.

**Photochemical smog is the brown haze formed in most cities. To form them you need nitrogen oxide, hydrocarbons, and energy from the sun. Car emissions are one of the main causes of this smog.**

1. Use the Back Arrow to go back to the main page.
2. Go into the link: Lung Attack. Click on all of the links to see breathing normal and with all of the pollution factors. **Contrast** normal breathing with breathing with Ozone, Big particles, Small particles, and carbon monoxide. You may do this in table format.

Normal Breathing-Consists of bringing in clean oxygen, which spreads to the many branches in your lungs, which is then transferred into your bloodstream. Co2 is then released from your body, as the oxygen spreads throughout.

Ozone-Is created from the sun reacting with pollutants, and when breathed in it attacks the cells that line your airways.

Big Particles-Consists of dirt and dust particles that can enter your airway and block the flow of oxygen.

Small Particles-Can be made from heavy metals or toxic chemicals. These small particles travel deep into your lungs and cause bigger health problems.

Carbon Monoxide-Produced from things burning, such as car emissions. When it enters the red blood cells instead of oxygen it can cause serious health problems.

1. Go back to the main page.
2. Go into the link: Smog, Who does it Hurt? **Read** the article and **answer** “How can I avoid unhealthy exposure to ozone?” Limit outdoor activity on extremely hot days and check with state air agency for high ozone days.
3. Go back to the main page.
4. Go into the link: Smog City and get the ESA 21: Environmental Science Activities packet. You will be working on the simulation from here on.